Financial Repression, Financial Development and Economic Growth

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Abstract

In this paper, we examine the empirical relationship between financial repression, financial development, and growth. Theory has developed in which financial repression and growth are linked. The main contribution of this paper is to look at two parts. First, What, if any, is the empirical link between financial repression and growth, controlling for the level of financial development? Second, Is there an empirical link between financial repression and financial development?

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1 Introduction

Schumpeter (1911) articulated a view that the development of financial intermediation was positively related to economic growth. Subsequently, researchers applied case study techniques, providing evidence that countries with better developed financial systems were associated with higher rates of per-capita GDP growth.[1] More recently, King and Levine (1993) present evidence in which there is a systematic relationship between a set of "financial indicators" and a set of "growth indicators." In short, countries with better developed financial system, on average, grow faster than countries with less developed financial systems.

Several alternative explanations have been offered to account for the King-Levine correlation between financial development and growth. Some explanations contend that more financial development causes faster growth. At the heart of this argument is the idea that the equilibrium rate of output growth is positively related to the gross real return of the storage good.[2] More specifically, a financial intermediary must offer a relatively attractive real return on its deposits. Greenwood and Jovanavic (1991) argued that financial intermediaries are specialists in evaluating capital projects. As such, intermediaries will, on average, earn higher returns on their assets than a private agent would earn. These higher yields are then passed on private agents/depositors in the form of higher real returns on deposits. Bencivenga and Smith (1991) offer an alternative view, presenting a model economy in which there are two storage goods–one liquid and one illiquid–and the illiquid one dominates the liquid one in rate of return. Without intermediaries, private agents need to insure themselves against liquidity shocks. With intermediaries, private agents choose deposits. The intermediary faces less aggregate liquidity risk than the private agents so that the bank's portfolio is more heavily weighted toward the illiquid storage technology. Thus, just as in Greenwood and Jovanavic, deposits offer a higher real return than the portfolio selected by private agents.

A third possible explanation posits that output growth causes greater financial development. Robinson (1952) argued that countries that grow faster, on average, devote more resources to developing their develop financial systems. There is no way discern between the competing theories with correlations. In short, both theories can account for the "fact" that countries with more developed financial systems, on average, grow faster than countries with less developed financial systems.[3]

The purpose of this paper is to refine the stylized facts regarding intermediation and economic growth. Our chief interest is in the correlation between financial repression and both economic growth and financial development. Following Roubini and Sala-i-Martin (1995), governments repress financial devel-

[1] See, for example,Cameron (1967), Goldsmith (1969), and MacKinnon (1971).

[2] The balanced-growth path for an economy in which agents have a CES utility function will possess this property.

[3] See Levine (1997) for a more complete discussion of the various index in the financial development-growth debate. In addition, this paper gives the reader a thorough review of the various theoretical channels offered to account for a financial intermediary.

opment by not "allowing the financial sector to operate at its full potential by introducing all kinds of regulations, laws, and other nonmarket restrictions to the behavior of banks and other general financial intermediaries" (p.277). Here, both the inflation rate and the reserve ratio act as means to repress financial development.[4] The evidence we present bears on two questions relating repression, financial intermediation, and economic growth. First, is there a systematic relationship between economic growth and these two repression measures? Second, is there a systematic relationship between financial development and financial repression?[5]

In this paper, our chief aim is to clarify the role of financial repression with respect to growth. Many researchers have investigated the relationship between inflation and growth.[6] Barro (1995) finds that sustained high inflation rates are detrimental to long-run performance. Levine and Renelt (1993) question the robustness of the inflation-growth result. They find that there is no systematic relationship between inflation and growth. More recently, Bruno and Easterly (1998) break the sample, finding that the statistical relationship between growth and inflation is significant , but among the set of countries in which inflation rates are above 40%. Boyd, Levine and Smith (1996) ask a slightly different question, focusing on the relationship between inflation rates and the development of a country's financial system. They present evidence indicating that high-inflation countries do, on average, have less developed financial systems. Thus, there has been extensive, and evolving, work on the inflation-financial development-growth question.

What is absent from these investigations is the role of financial repression. Our specific contribution is to address three issues. First, we examine the empirical relationship between financial repression-growth, asking whether countries with high reserve ratios, on average, grow faster or slower than countries with low reserve ratios. Second, we ask whether countries with high reserve ratios tend to have more or less developed financial systems. Third, and most important, by systematically assessing the role of financial repression, we merge several strands of the literature; in particular, the strand investigating monetary policy (read inflation) and growth together with the strand investigating financial development and growth.

The measure of financial repression, the ratio of bank reserves to bank deposits is an amalgam. In part, the measure captures a monetary policy tool–the reserve requirement ratio. As a proxy for reserve requirements, the results can be used to assess whether the inflation rate is a sufficient statistic for monetary

[4] Bencivenga and Smith (1993) examine a model in which an increase in reserve requirements represses development of the financial system. The Bencivenga-Smith rationale for reserve requirements closely follows Diamond and Dybvig (1983).

[5] Roubini and Sala-i-Martin (1992) look at financial repression and growth. In their 1995 paper, financial repression and financial development are used interchangeably. Thus, this paper looks at financial repression's relationship with growth, controlling for the level of financial development. The second part, therefore, offers insight into the relationship between financial development and financial repression.

[6] See, for example, Kormendi and Meguire (1985), DeGregario (1992, 1993), Gomme (1993), and Barro (1997).

policy in terms of the relationship of monetary policy actions and growth. We hesitate to advocate this interpretation because of the difficulty in determining the closeness of the reserve ratio to the reserve requirement. In addition, non-policy factors affect the magnitude of the reserve ratio. Indeed, the reserve ratio may be picking some parts of financial development. It is not hard to imagine that banks in countries with underdeveloped financial systems may hold reserves in excess of their statutory requirements to meet basic liquidity needs or because unsatisfactory alternatives have not been developed. We have some reason to suspect that the reserve ratio is measuring financial repression that is different from the measurements used to capture the stage of financial development. Accordingly, our empirical investigation should shed light on whether the reserve ratio contains unique explanatory information and in what context there is a systematic empirical relationship.

Here, we treat the inflation rate as an important part of financial repression. The justification is straightforward. Financial repression is toothless if the inflation rate is set at the "optimal" level. In other words, in the absence of a distortion in the sense that fiat money offers the socially desirable rate of return, financial repression is also nondistortionary. We are not saying that the inflation rate acts as a direct means of repressing financial development. But the rate of return on fiat money is related to the reserve ratio and the inflation rate. As such, the inflation rate cannot be totally eliminated from the "financial repression" package. Throughout this paper, we will refer to movements in both the reserve ratio and the inflation rate as movements in the extent of financial repression.

Of course, adding an additional explanatory variable changes the findings from earlier studies. So our investigation proposes a specific kind of sensitivity analysis; namely, How are the previous findings affected–in particular, with respect to the inflation-growth and financial indicator-growth relationships–when we include an additional financial repression measure?

We present two sets of findings. The first set addresses questions about the relationship between financial repression measures and growth indicators. Among the results we report are:

> (i) Inflation and the reserve ratio have different relationships to growth, indicating that inflation is not a sufficient statistic for financial repression;
>
> (ii) The evidence between reserve ratio and growth is stronger than the relationship between inflation and growth. Countries with high reserve ratios, on average, grow slower than countries with low reserve ratios. In contrast, there is a weak correlation indicating that countries with high inflation rates, on average grow slower than countries low inflation rates;
>
> (iii) It is infrequent that (4 out of 16 growth regressions) both a financial development measure and the reserve ratio are jointly significant in growth regressions. Interestingly, in 9 of the other 12

regressions, one of the two measures is systematically related to a growth measure.

Consider these results in conjunction with the findings presented by King and Levine. One possible interpretation of these results is that King and Levine's results are not robust in the sense that by adding an explanatory variable there is no longer a coherent systematic relationship between different measures of financial development and growth. Alternatively, and our preferred interpretation, is that perhaps financial development is systematically related to financial repression measures.

The second set examines the relationship between financial repression measures and the level of financial development. We find:

(iv) that the reserve ratio is systematically, negatively related to the level of financial development. In words, countries that have high reserve ratios, on average, have less developed financial systems than countries with low reserve ratios.

(v) There is also a systematic, nonlinear relationship between the inflation and level of financial development. The evidence points to a negative relationship between inflation and financial development; that is, high-inflation countries tend to be less financially developed, but the relationship disappears with increases in the inflation rate above a threshold rate.

In combination, these two sets of results offer a possible explanation for why the relationship between growth and financial repression measures are not robust. Financial development and financial repression are systematically related. Consequently, with both the reserve ratio and a measure of financial development in the same growth regression, typically only one of the variables exhibits a significant coefficient. Thus, our read of the evidence is that there is a significant correlation between growth and the set of financial indicators and between growth and financial repression, especially the reserve ratio. Yet, when both are included in a growth regression, neither the set of financial indicators nor the reserve ratio possess enough independent information so that the coefficients on each is robustly significant. In support of this view, we present the evidence indicating that countries with high reserve ratios tend to be countries that have less developed financial systems.

Certainly, there are caveats to an empirical study that forces a cautious interpretation of these results. Foremost is the notion of causality. The evidence does not necessarily indicate that financial repression measures "cause" either growth or financial development. The results only suggests that predetermined component of monetary policy, especially reserve ratio, is strongly linked with growth and financial development.

The paper is organized as follows. Section 2 briefly reviews some of the literature on financial repression and growth. We present our findings, assessing the empirical links between financial measures and output growth in Section 3.

More precisely, we look at the evidence regarding the empirical relationship between both financial repression and financial development and growth. In Section 4, we assess the empirical links between financial repression measures and the financial development measures. Some concluding remarks are offered in Section 5.

2 Financial Repression and Growth: A Review

2.1 The Motivation

What is the basis for suspecting that financial repression would be related to economic growth? First, there is the relationship between growth and the gross real return on household's assets. For a Ramsey economy in which the household's preferences exhibit a constant elasticity of intertemporal substitution (CES), the Euler equation is

$$\frac{c_{t+1}}{c_t} = (\beta R_t)^{\frac{1}{\sigma}} \tag{1}$$

where c is units of the consumption good, $0 < \beta < 1$ denotes the household's discount factor, R is the gross real return on the household's assets, and $\sigma > 1$ is the elasticity of intertemporal substitution parameter. Along the balanced-growth path, equation (1) says that the rate of per-capita output growth is positively related to the gross real return on the household's assets.

Within this setup, the next question involves the array of assets available to the household. To keep things simple, let the assets be divided into two categories: those against which reserve requirements hold and those against the reserve requirement is zero. Let the gross real return on the household's storage goods be represented as

$$R_t = \lambda S1_t + (1 - \lambda) S2_t \tag{2}$$

where $S1$ is the gross real return on fiat money and $S2$ is the gross real return on all other stores of value. By definition, $S1 = \pi^{-1}$ and λ denotes the fraction of the agent's portfolio held as fiat money. Note that λ will be a function of the reserve requirement ratio. More generally, λ will serve as a measure of financial repression. Money is rate-of-return dominated so that $S2 > S1$. With equation (2) it is possible to characterize the effect of that financial repression has on the economy's growth rate via the gross real return on assets. An increase in the inflation rate, for instance, lowers the real return on fiat money. With $S2$ constant, $S1$ falls, driving R down. An increase in the reserve ratio shifts greater weight toward fiat money. Hence, R falls as the reserve requirement rises.

2.2 Caveats and Related Literature

Of course, in general equilibrium, the relationship between financial repression and the gross real return on household's assets is more complicated. For one thing, this model economy takes the breadth of financial development as given. More specifically, financial innovations may occur as a result of attempted financial repression. In terms of equation (2), λ is endogenous as well as being a function of the policy variables. For instance, Levine and Zervos (1996) show that measures of equity market development are positively associated with measures of economic growth.[7] Such evidence could be interpreted as a financial innovation that circumvents financial repression. In short, the breadth of financial assets increases, permitting agent's to realize a higher gross real return on their portfolio. Thus, greater financial repression–higher inflation and/or higher reserve requirements–could induce financial innovation, such as the development of new financial markets, that permit faster capital accumulation.

Because we focus on aggregate measures of economic activity in this analysis, it is impossible to assess mechanisms through which industry and financing work together to spur faster growth. Rajan and Zingales (1998) find that industries that, on average, rely more heavily on external finance will grow relatively faster than other industries in those countries in which financial systems are better developed. Dermirguc-Kunt and Maksimovic (1996) use firm-level data to show that in those countries with better developed financial systems, firms grow faster than they would without access to well-developed financial markets.

3 Financial Repression and Financial Development:Assessing the Empirical Links to Growth

In this section, we present the empirical findings. Subsections are devoted to simple correlations, results from non-parametric exercises, and regressions. In this paper, the data are span the period from 1960-89 for 119 countries and mostly are taken from the same source as King and Levine. In this way, the differences that emerge can be traced directly to the additional variables unique to this investigation; specifically, the reserve requirement measure.

It is useful to briefly describe the reserve ratio measure used in this analysis. In an otherwise frictionless world, the reserve ratio would be a measure of the reserve requirement. To get a reserve requirement measure, however, a researcher would like to compute the average marginal reserve requirement. Like tax codes, reserve requirements across countries tend to quite be convoluted,

[7] In a very interesting paper, La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) explore the role of legal structures on economic growth. In some sense, the property rights embodied in the various legal systems identified in La Porta, et al, may supercede the stage of financial development; that is, financial development hinges on the enforcement of basic property rights inherent to a particular legal system. An open question, therefore, is whether countries with more developed financial systems are correlated with the origins of their legal system.

applying different reserve requirement to different sizes of deposits, different deposit categories, etc. As such, you would like a distribution of these various types so as to construct the measure accordingly; that is, how would the average dollar would be deposited, capturing the appropriate reserve requirement that would apply. Data on the distribution of deposit categories do not exist so as to protect private information of some large banks. Hence we use IFS data to construct the reserve ratio, which is the value of bank reserves divided by the difference between M2 and currency outside banks.[8] We choose M2, including checkable deposits and savings accounts, because historically reserve requirements in many countries have applied to both deposit categories. Despite our efforts to structure our measure to look like the average reserve requirement ratio, it is not. Recently, several countries–Canada and New Zealand, for instance–have eliminated reserve requirements. Yet, Canadian banks still hold reserves. More generally, aggregate reserves can exceed the amount of "required" reserves in countries. Maybe markets for interbank loans are not well developed, or in the Roubini-Sala-i-Martin framework, regulatory structures other than reserve requirements induce banks into holding these excess reserves. Thus, we adopt the"financial repression" nomenclature.

3.1 Simple Correlations

Table 1 presents the correlation matrix for per-capita real GDP growth, the King-Levine set of financial development indicators and the two financial repression variables–the inflation rate (PI) and reserve ratio (RESERVE). King-Levine set of financial development indicators are the ratio of liquid liabilities of the financial system to GDP (LLY), the ratio of deposit money bank domestic assets to deposit money bank domestic assets plus central bank domestic assets (BANK), the ratio of claims on the nonfinancial sector to total domestic credit (PRIVATE), and the ratio of claims on the nonfinancial private sector to GDP (PRIVY). Here, the unit of observation for each country is the sample mean computed for the period 1960-89. We focus our attention on the correlations with the financial repression measures. Three noteworthy results are present in Table 1. First, both the reserve ratio and inflation rate are negatively correlated with per-capita output growth. In neither case is the correlation coefficient (in absolute value) as large as the coefficients corresponding to per-capita real GDP growth as the set of financial indicators, though the correlation between the reserve ratio and per-capita real GDP growth is close. Second, the financial indicators are negatively correlated with each variable that is contributing to financial repression. Again, the correlation is strongest with the reserve ratio. Third, there is a positive association between the reserve ratio and the inflation rate.

Overall, simple correlations suggest the following. With some confidence, one can assert that countries with high reserve ratios, on average, grow more

[8] More specifically, we compute the annual average of bank reserves divided by the annual average of bank deposits. Thus, this measure corresponds closely to the flow concept present in the per-capita GDP data.

slowly than countries with low reserve ratios. Countries with high reserve ratios also tend to have less developed financial systems than countries low reserve ratios. Lastly, countries with high reserve ratios, on average, have high inflation rates.

3.2 Non-Parametric Results

Next, we report central tendencies for the set of financial indicators and both the reserve ratio and the inflation rate. Specifically, the distribution of countries is constructed by a growth indicator, then quartiles are identified with the mean and median calculated for each indicator of financial development and the two financial repression measures. By using the distribution of the growth rates across countries, one can get an idea of whether the correlation coefficients are being driven by a small set of outliers.

Tables 2.1-2.4 report the data for per-output growth (GYP), per-capita capital growth (GK), the investment-output ratio (INV), and growth residual in percentage-change terms (EFF). As with the simple correlation coefficients, full-sample averages are used. The evidence can be easily summarized. Regardless of the growth indicator, as one moves from a faster-growing group to the next slower growing one, the set of financial indicators decline and the reserve ratio rises. In addition, there is little evidence that within-quartile skewness is a substantial problem. This inference is drawn from the closeness of the mean and median with each quartile. As in Boyd, Levine, and Smith, the evidence suggests that empirical relationship between inflation and economic growth is not linear. For instance, look at the inflation (the right-hand-most) column in Table 2. In each panel, the average inflation rate for each growth-quartile neither uniformly increases nor decreases. Accordingly, it is difficult to say from the non-parametric evidence that countries with high inflation rates seems to growth slower than countries with low inflation rates. In addition, the difference between the mean and median in each quartile is typically larger than it is for either the reserve ratio or the measures of financial development.

Overall, the evidence in Table 2 reinforces the finding established by the simple correlation coefficient; that is, countries with more developed financial systems and lower reserve requirements tend to grow faster than countries with either less developed financial systems and higher reserve requirements. By breaking the countries into growth quartiles, it becomes quite easy to see why the relationship between economic growth and inflation is weak. Based on the evidence, however, we do not conclude that weak inflation-growth relationship is driven by a few high-inflation outliers.

3.3 Regressions

The next step is to determine whether there is a statistically significant relationship between either the reserve ratio, inflation rate, or both and growth after one accounts for a standard set of explanatory variables. More specifically, Is there marginal information in the reserve ratio or inflation rate that is correlated

with growth indicators? We follow King and Levine in selecting the set of conditioning variables used in the growth regressions. The additional explanatory variables are: the log of per-capita real GDP in 1960 (y_{60}), the log of secondary school enrollment in 1960 (sch_{60}),the ratio of trade to GDP (trd), the ratio of federal government spending to GDP (gov), and the inflation rate (PI). In each case, the t-statistics are obtained using White's heteroskedastic-consistent variance-covariance matrix.

The results regarding the set of conditioning variables are not surprising. In general, countries that have the lowest levels of per-capita real GDP in 1960, on average, grow faster than countries with higher initial values of per-capital real GDP. Countries with higher initial levels of educational enrollment also tend to grow faster than countries with less educational enrollment rates. Measures of openness and government spending are not systematically related to the set of growth indicators. Neither is there evidence to support the notion that high-inflation countries are systematically related to countries experiencing slower growth in the multiple-regression analyses.

We turn our attention to the relationship between the set of growth indicators, and the set of financial indicators and the reserve ratio. Table 3.1 - 3.4 reports the results of contemporary regressions in which the set of conditioning variables along with either one financial indicator variable or the reserve ratio. Thus, there are five different regressions for each of the four growth indicators. These results recreate the King-Levine result. In addition, the evidence indicates that the reserve ratio is significantly related to the different growth measures, even after accounting for the standard set of regressors. Hence, this offers stronger evidence that countries with high reserve ratios, on average, grow at a slower rate. The lone exception is that there is no significant relationship between the reserve ratio and the growth rate of per-capita capital stock.

Tables 4.1-4.4 ask whether a predetermined component of reserve requirement is linked with subsequent growth indicators. Due to data availability, we use the decade-long average. Hence, these regressions reflect both cross-section and time-series aspects in the data. Throughout this paper, we use the suffix "I" to indicate the initial value; for instance, LLYI is the initial value of LLY for that particular decade. The results for some of the financial-development indicators, such as at BANKI AND PRIVATEI, are not robustly related to the set of growth of indicators. This is slightly different than the regression evidence presented in which 30-year averages are used. For those regression in which the initial value of reserve requirement is in the specification, one sees that it is systematically related to each of the alternative growth indicators. As such, the results provide further support to the hypothesis that the reserve requirement is a good predictor of subsequent economic growth.

A natural question is to ask whether both predetermined component of the financial development variable and the reserve ratio are systematically related to subsequent growth. Table 5 reports results from a set of regressions in which one financial development indicator is paired with the reserve ratio variable. In doing so, the evidence bears on whether there is information in the reserve ratio that is systematically related to growth after accounting for the level of financial

development.

There are 16 combinations of growth indicators and financial-development indicators. The results are mixed. When per-capita output growth or per-capita capital stock growth are used to measure growth, the reserve ratio is significant. Notably, however, the reserve ratio is not significantly related to either the investment-output ratio or EFF. Interestingly, neither BANKI nor PRIVATEI are systematically related to growth whenever the reserve ratio is. The two other indicators of financial development–LLYI and PRIVYI–are systematically related to whatever growth indicator one looks at. Overall, both financial-development indicator and the reserve ratio are both systematically related to growth in four of the sixteen cases. Of the other 12 regressions, the coefficient on either the financial-development indicator or the reserve ratio is significantly in nine of those cases. Thus, the evidence that countries with high reserve ratios, on average, grow slower than countries with low reserve ratios is subject to one caveat: it depends on what measure of growth one wants to focus on. For broader measures like output growth and capital stock growth, there is a systematic, negative relationship between reserve ratios and growth. However, provided one accounts for the stage of financial development, the reserve ratio is not significantly related to either the investment-output ratio or the residual-growth-accounting measure.

The growth regressions results presented in Tables 3 - 5 also show that the coefficient on the inflation rate is not significant at the 5% level when a financial-development variable or reserve ratio is in the specification. For the contemporary regressions, inflation is significant for a few specifications at 10% significance level. However, the decade's initial value of inflation is not significantly related with subsequent growth indicator, even at 10% significant level.

Overall, the evidence from the growth regressions shows two things. First, the evidence that high-reserve-ratio countries, on average, are low-growth countries is somewhat sensitive to growth indicator after one accounts for the stage of financial development. As such, the evidence is less than compelling that financial repression is systematically related to growth after accounting for the level of financial development. Second, the evidence is more compelling that the inflation rate is not a sufficient statistic for financial repression when analyzing economic growth.[9]

The fact that the systematic relationship between reserve ratio and growth weakens after one includes an indicator of financial development suggests the next phase for the investigation, especially in light of the evidence on the partial correlation exhibited in Table 1. Do less financially developed countries have high reserve ratios? The answer attempts to shed light on the issue of financial repression and financial development.

[9] We also consider various subsamples of countries. Specifically, if we omit OECD countries or sub-Saharan African countires, the results are not materially altered with respect to the inflation rate and reserve ratio. In addition, if we omit countries that do not have a full 30 annual observations, the results are not materially different. Results are avialable from the authors upon request.

4 Financial Repression: Assessing the Empirical Links to Financial Development

Table 6 reports the findings from contemporary regressions in which the set of financial development indicators are the left-hand-side variables. We follow Boyd, Levine, and Smith's specification, including the initial value (1960) of both log per-capita real GDP and the log of initial educational attainment, the ratio of government spending to GDP, the average market exchange rate premium (BMP), the number of revolutions and coups ($REVC$), and the inflation rate.

Table 6 also attempts to account for a nonlinear relationship between inflation and the financial development indicator and show that there exists a threshold inflation rate. The notion here is that countries with inflation rates above $x\%$ have a different relationship between inflation and financial development than countries with inflation rates below $x\%$. We use five different specifications. Equation (1) of Table 6.1 -6.4 is our baseline regression in which we examine a linear relationship. The evidence suggests that countries with high inflation rates, on average, are less financially developed than countries with low inflation rates. The caveat is that the inflation-financial development relationship depends on which measure of financial development one chooses. Specifically, there is no systematic relationship between inflation and either the BANK or PRIVATE measures of financial development. In other words, the linear relationship is not very robust.

Equations (2) and (3) adopt a threshold approach. For each country we create a dummy variable that equals 0 if the average inflation rate is below 15% (or 40%) and 1 otherwise. Then the intercept term is permitted to change for "high" and "low" inflation countries and, more importantly, an interactive term is created which is the product of the dummy variable and the inflation-rate variable. Here, the idea is that the slope changes for high-inflation countries if the coefficient on the interactive term is significantly different from zero.

Before we discuss the results with respect to the financial repression measures, it is interesting to note two things with respect to the set of conditioning variables. First, the log of initial secondary school enrollment ($ln\ sch_{1960}$) is significant only in the case in which LLY is the financial indicator, while the log of initial per-capita real GDP ($ln\ y_{1960}$) is not significantly related to the financial development measure only when LLY is the indicator. Second, the number of revolutions and coups is systematically related to the financial indicator variable only when one accounts for a possible nonlinear relationship between inflation and financial development.

With respect to the inflation rate, the results are stronger when the threshold inflation rate is chosen to be 40%. In Tables 6.1-6.4, one sees a significant, negative relationship between inflation and financial development for low-inflation countries. However, the sum of the coefficient on inflation and the interactive term is generally not significantly different from zero. The one exception is in a case in which BANK is the financial-development variable and in a regression

in which the threshold inflation rate is 15%. Thus, the evidence suggests there is a nonlinear relationship between inflation and financial development. In words, within the set of low-inflation countries, the lowest-inflation countries, on average, are more financially developed than those close to the high-inflation threshold. In contrast, within the set of high-inflation countries, there is no systematic relationship between inflation and financial development, suggesting that once a country passes a threshold, financial development is not significantly related to marginally higher inflation. In short, the evidence suggests that there is a concave relationship between inflation and financial development

There is some evidence to suggest that outliers are responsible for results. Note that the sum of the coefficients on inflation and the interactive term sum to zero regardless of the level of the inflation-rate threshold (equation 2 and 3 in Tables 6.1-6.5. Perhaps a small number of outliers dominate the sum of the coefficients on the inflation rate and the interactive term. To assess the importance of outliers on the concavity of the relationship between inflation and financial development, we omit the observations in which the 30-year average inflation rate is greater than 40%, repeating the estimation with and without dummy variables switched to one for countries with average inflation rates above 15 % . The results (equation 4 and 5 in Table 6) generally confirm our suspicion; in particular, the nonlinearity disappears for inflation rates above 15%, indicating that the concavity of the relationship between inflation and financial development variable is negligible.

Table 6.5 specifies a case in which the reserve ratio is the left-hand-side variable. The idea is that there may be a systematic relationship between different aspects of financial repression, even after accounting for other economic conditions. Equations 1 to 4 show that there is a systematic relationship between inflation and the reserve ratio, similar to the relationship between inflation and the financial-development indicators. In particular, there is a significant, positive relationship between inflation and the reserve ratio for low- to moderate-inflation countries, but for high-inflation countries (those with inflation above 40%), the systematic relationship disappears. We proceed with a simple outlier assessment similar to what we did when looking at the inflation-financial development regressions. Note that equation 5. suggests that there is a significant concave relationship between the reserve ratio and inflation. even after the outliers are omitted. Thus, countries with high inflation rates, on average, tend to have high reserve ratio, though the relationship is deteriorating slightly for countries with average inflation rates above 15%.

Table 7 looks at the contemporary relationship between the reserve ratio and the financial development measures. For the equation with BANK and PRIVATE, the coefficient on the reserve ratio is negative and significant at the 1 % level. For the equation with LLY and PRIVY, the coefficient on the inflation rate is negative and significant at the 5% level. In other words, countries with a greater degree of financial repression, whether inflation or reserve ratio, on average are countries with less developed financial systems. Perhaps evidence from Table 6.5 may account for why ones sees either the coefficient on the inflation rate is significant or the coefficient on the reserve ratio is significant,

but never both in the same regression.

Table 8 takes a different approach, using predetermined values for the inflation rate and the reserve ratio. Following the approach in Table 4, we use decade-long sample means from the 60-69, 70-79, and 80-89 period and pool the time series-cross section data. In addition to increasing the number of observations, this approach reduces the influence of a small number (6 to 9) of high inflation countries. Moreover, we get some additional variation insofar as there is a tendency for countries to experience higher inflation during the 1970's and lower inflation in the 1960s and 1980s. This noisy pattern was eliminated by focusing only on the 30-year sample means as the unit of observation in the regressions reported in Table 7. With the increased number of observations (over 200), it is possible to use the initial values of the right hand side variables as instruments of the predetermined components.

Tables 8.1-8.4 provide evidence on two distinct findings. First, the evidence supports the notion that there is a threshold in the relationship between inflation and the financial-development indicators. However, even without the non-linearity specification, the coefficient of inflation (see equation 1) is significant at the 1 % level for all financial variable regressions. One interpretation is that the influence of high inflation outliers to the estimation is smaller than in the contemporary regression.[10]

Second, both inflation and the reserve ratio are significant at least at the 5 % level in every financial development equation. The one exception to this rule is that inflation is not significantly related to PRIVATE in some of the specifications. In general, countries with high, predetermined inflation and reserve ratios are, on average, countries that are less financially developed than countries with low, predetermined inflation rates and reserve ratios. In addition, the two measures of financial repression do not appear to contain the same information in terms of financial development measures.

5 Concluding Remarks

In this paper, we investigated two relationships: one between financial repression and growth and one between financial repression and financial development. We use two measures of financial repression–the inflation rate and the reserve ratio. One of the new findings presented here is that we examine the relationship between these financial repression measures and growth, taking into account the state of financial development. We find that inflation is not systematically related to growth. The reserve ratio is systematically related to growth, but not robustly. More precisely, high reserve ratio countries, on average grow more

[10] Note that the initial level of per-capita real GDP is significant in the financial development variables. As such, the evidence supports the notion that wealthy countries are more financially developed than poorer countries. This result does not bear directly on Robinson's claim, but may offer evidence on the notion of whether finance "follows" the accumulation of wealth in the temporal sense.

slowly, in the sense of output growth and capital growth, than do low-reserve-ratio countries. However, the relationship between reserve ratio and growth indicators is not dependent on the measure of growth one chooses, at least when one controls for initial values of financial variables. The finding that reserve ratios are systematically related to a subset of the growth indicators suggests that there is some information contained in the reserve ratio that is above and beyond the information contained in the set of financial indicators. Overall, the evidence suggests that the inflation rate is not a sufficient statistic for financial repression in either the growth context nor the financial development context.

Next, we turn our attention to an assessment of the empirical relationship between financial development and financial repression. Here, the evidence is stronger. Inflation and reserve requirements are strongly and robustly correlated with the size of the formal financial intermediary sector relative to GDP, the importance of banks relative to the central bank, the percentage of credit allocated to private firms, and the ratio of credit issued to private firms to GDP. Thus, the data are consistent with the notion that financial repression is an important factor in terms of financial development. Specifically, countries with either high inflation or high reserve ratios tend to be less financially developed than countries with low inflation or low reserve ratios. Regarding inflation, the evidence points to a stronger linear relationship at low inflation rates than at higher inflation rates. That is, for countries above some threshold inflation rate, higher inflation appears to be unrelated to financial development.[11]

Based on the findings presented in this paper, we conclude that financial repression is empirically linked with growth at least in part through the level of financial development. With respect to the question posed in the title of this paper, our findings suggest that Schumpeter was right because policies produce an environment that is more or less conducive to the development of a financial system. King and Levine's evidence establishes an empirical link between financial intermediaries and growth. In this paper, we establish an empirical link between financial repression and the development of financial intermediaries. In our view, a financial repression-financial development link augments the Schumpeterian story. That is, the policymakers make it harder or easier for financial intermediaries to allocate funds to projects of the creative-destruction type that Schumpeter referred to.

These results offer a tentative identification strategy insofar as we use predetermined variables in some of the specifications. Of course, it does not mean that it is the only direction of the interaction between economic growth and financial development. Another important caveat is that the financial repression variables may be proxies for other omitted variables. It is well known that high inflation countries are countries that experience the greatest volatility in the inflation rate. Hence, there is no way to disentangle the contribution from

[11] This result does not necessarily contradict Bruno and Easterly (1998) that a discrete high inflation crisis (over 40%) is associated with low growth. Equations 2 and 3 of Table 6 show that constant dummies are significant at the 1 % level, and the sizes of the coefficients are economically meaningful. The countries with higher inflation (over 40%) tend to have less financial development than the countries with lower inflation.

inflation uncertainty and the contribution from the level of the inflation rate. Similarly, the reserve ratio is probably closely associated with a set of regulatory features that inhibit the development of the bank. Without such measures in the regressions, the results do not make clear which regulatory variables really matters. Obviously, there is still much for future research to disentangle.

As an aside, the empirical link between financial repression and financial development adds another piece to the recent theoretical literature. In the endogenous growth literature, Romer (1990), Rebelo (1991), Rivera-Batiz and Romer (1991), and King and Rebelo (1991) focus on the role that tax and trade policy plays. The evidence in this paper provides motivation for work by Bencivenga and Smith (1992), Roubini and Sala-i-Martin, Jones and Manuelli (1995), and others, who investigate the role that financial repression has on growth.

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Table 1
Correlation Matrix : Full Sample Averages for the Period 1960-89

Variable	GYP	LLY	BANK	PRIVATE	PRIVY	RESERVE	PI
GYP	1.0	-	-	-	-	-	-
LLY	0.58	1.0	-	-	-	-	-
BANK	0.45	0.60	1.0	-	-	-	-
PRIVATE	0.39	0.49	0.82	1.0	-	-	-
PRIVY	0.51	0.84	0.64	0.68	1.0	-	-
RESERVE	-0.34	-0.36	-0.62	-0.58	-0.43	1.0	-
PI	-0.17	-0.20	-0.16	-0.14	-0.15	0.42	1.0
nobs	74						

Notes: GYP = per capita real GDP growth; LLY = ratio of liquidity liabilities of the financial system to GDP; BANK = ratio of deposit money bank domestic assets to deposit money bank domestic assets plus central bank domestic assets; PRIVATE = ratio of claims on the nonfinancial sector to total domestic credit; PRIVY = ratio of claims on the nonfinancial private sector to GDP; RESERVE = ratio of bank reserves to bank deposits; PI = inflation rate.

Table 2.1
Quartile Averages of Financial Variables
for Per-Capita Output Growth Categories : Means (Medians in Parentheses)
Full Sample Averages for the Period 1960-89

Quantile	GYP	LLY	BANK	PRIVATE	PRIVY	RESERVE	PI
All	0.0190	0.3675	0.7144	0.5978	0.2559	0.1557	18.8670
	(0.0198)	(0.3000)	(0.7178)	(0.6336)	(0.1946)	(0.1210)	(7.6560)
4	0.0389	0.5545	0.8144	0.6831	0.3755	0.1178	15.6492
	(0.0352)	(0.5442)	(0.8481)	(0.7020)	(0.3258)	(0.0868)	(7.6710)
3	0.0254	0.4267	0.7395	0.5913	0.3300	0.1290	7.6286
	(0.0254)	(0.3876)	(0.7648)	(0.6217)	(0.2493)	(0.1027)	(7.1540)
2	0.0146	0.2767	0.6991	0.5985	0.1720	0.1617	11.0917
	(0.0148)	(0.2492)	(0.6987)	(0.6364)	(0.1693)	(0.1315)	(7.3120)
1	-0.0029	0.2105	0.6050	0.5180	0.1457	0.2131	40.0977
	(-0.0013)	(0.2068)	(0.6193)	(0.5440)	(0.1444)	(0.1840)	(10.3210)
nobs	74	74	74	74	74	74	74

Notes: GYP = per capita real GDP growth; GK = growth rate of the per capita real capital stock; INV = ratio of investment to GDP; EFF = growth residual in percentage change term; LLY = ratio of liquidity liabilities of the financial system to GDP; BANK = ratio of deposit money bank domestic assets to deposit money bank domestic assets plus central bank domestic assets; PRIVATE = ratio of claims on the nonfinancial sector to total domestic credit; PRIVY = ratio of claims on the nonfinancial private sector to GDP; RESERVE = ratio of bank reserves to bank deposits; PI = inflation rate.

Table 2.2
Quartile Averages of Financial Variables
for Per-Capita Capital Growth Categories : Means (Medians in Parentheses)
Full Sample Averages for the Period 1960-89

Quantile	GK	LLY	BANK	PRIVATE	PRIVY	RESERVE	PI
All	-0.0032	0.3675	0.7144	0.5978	0.2559	0.1557	18.8670
	(-0.0054)	(0.3000)	(0.7178)	(0.6336)	(0.1946)	(0.1210)	(7.6560)
4	0.0145	0.6031	0.8711	0.7277	0.4719	0.0998	8.6126
	(0.0129)	(0.5724)	(0.8988)	(0.7220)	(0.4052)	(0.0877)	(7.1750)
3	0.0018	0.4050	0.7471	0.6099	0.2413	0.1557	17.6352
	(0.0006)	(0.3840)	(0.7778)	(0.6481)	(0.1998)	(0.1269)	(8.4395)
2	-0.0071	0.2443	0.6424	0.5508	0.1581	0.1969	38.0710
	(0.0069)	(0.2194)	(0.6358)	(0.5506)	(0.1625)	(0.1968)	(8.3670)
1	-0.0218	0.2131	0.5949	0.5009	0.1464	0.1725	12.1064
	(-0.0224)	(0.2068)	(0.5992)	(0.4836)	(0.1564)	(0.1365)	(7.4880)
nobs	74	74	74	74	74	74	74

Table 2.3
Quartile Averages of Financial Variables
for Investment/Output Growth Categories : Means (Medians in Parentheses)
Full Sample Averages for the Period 1960-89

Quartile	INV	LLY	BANK	PRIVATE	PRIVY	RESERVE	PI
All	0.2011	0.3701	0.7133	0.5941	0.2545	0.1567	18.7747
	(0.2053)	(0.3040)	(0.7167)	(0.6289)	(0.1920)	(0.1272)	(7.6710)
4	0.2648	0.5466	0.8265	0.6981	0.3918	0.1250	18.2761
	(0.2522)	(0.5442)	(0.8428)	(0.7144)	(0.3258)	(0.1402)	(8.3730)
3	0.2226	0.4010	0.7981	0.6503	0.2801	0.1396	15.6926
	(0.2218)	(0.3545)	(0.8459)	(0.6686)	(0.1944)	(0.1057)	(7.5140)
2	0.1897	0.3166	0.6713	0.5438	0.1986	0.1588	26.1700
	(0.1931)	(0.2361)	(0.6500)	(0.5153)	(0.1811)	(0.1166)	(7.3175)
1	0.1276	0.2130	0.5568	0.4862	0.1484	0.2061	15.6964
	(0.1300)	(0.2065)	(0.5605)	(0.4448)	(0.1179)	(0.1840)	(8.1450)
nobs	75	75	75	75	75	75	75

Table 2.4
Quartile Averages of Financial Variables
for Efficiency Categories : Means (Medians in Parentheses)
Full Sample Averages for the Period 1960-89

Quartile	EFF	LLY	BANK	PRIVATE	PRIVY	RESERVE	PI
All	0.0199	0.3675	0.7144	0.5978	0.2559	0.1557	18.8670
	(0.0206)	(0.3000)	(0.7188)	(0.6336)	(0.1946)	(0.1210)	(7.6560)
4	0.0361	0.5107	0.7657	0.6590	0.3519	0.1249	15.8916
	(0.0324)	(0.4961)	(0.8108)	(0.7002)	(0.3258)	(0.1049)	(7.6710)
3	0.0249	0.4064	0.7560	0.5794	0.2801	0.1253	7.6248
	(0.0254)	(0.3922)	(0.8459)	(0.6217)	(0.2006)	(0.0914)	(7.1400)
2	0.0170	0.3421	0.7362	0.6405	0.2496	0.1520	11.3372
	(0.0179)	(0.2611)	(0.7030)	(0.6481)	(0.1795)	(0.1146)	(7.5760)
1	0.0018	0.2116	0.6030	0.5135	0.1431	0.2186	39.6262
	(0.0022)	(0.2068)	(0.6193)	(0.5440)	(0.1444)	(0.1840)	(10.0750)
nobs	74	74	74	74	74	74	74

Table 3.1
Contemporary Growth Regressions with Alternative Financial Variables :
Full Sample Averages for the Period 1960-89

Dependent Variable: GYP					
Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0070***	-0.0096***	-0.0100***	-0.0089***	-0.0071***
	(3.276)	(3.951)	(3.960)	(4.233)	(3.397)
$\ln sch_{1960}$	0.0092***	0.0113***	0.0121***	0.0105***	0.0110***
	(4.385)	(5.897)	(6.201)	(5.624)	(5.840)
trd	0.0020	-0.0042	-0.0008	0.0038	0.0028
	(0.440)	(0.777)	(0.147)	(0.805)	(0.552)
gov	0.0205	0.0258	0.0397	0.0280	0.0262
	(0.665)	(1.008)	(1.370)	(0.883)	(0.921)
PI	-0.0030	-0.0039	-0.0038*	-0.0028	-0.0023
	(1.130)	(1.483)	(1.801)	(1.113)	(0.811)
LLY	0.0259***				
	(3.731)				
BANK		0.0365***			
		(3.567)			
PRIVATE			0.0341***		
			(3.100)		
PRIVY				0.0324***	
				(3.343)	
RESERVE					-0.0335**
					(2.372)
$\bar{R}^2$	0.473	0.483	0.482	0.485	0.443
nobs	73	73	73	73	73

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 3.2
Contemporary Capital Growth Regressions with Alternative Financial Variables :
Full Sample Averages for the Period 1960-89

Dependent Variable: GK					
Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0000	-0.0012	-0.0019	-0.0014	0.0004
	(0.016)	(0.751)	(1.160)	(0.885)	(0.243)
$\ln sch_{1960}$	0.0052***	0.0069***	0.0075***	0.0064***	0.0067***
	(3.461)	(5.223)	(5.777)	(4.718)	(4.916)
trd	0.0000	-0.0034	-0.0018	0.0015	0.0006
	(0.009)	(0.783)	(0.443)	(0.362)	(0.153)
gov	0.0256	0.0317	0.0407	0.0324	0.0327
	(1.022)	(1.421)	(1.714)	(1.284)	(1.356)
PI	-0.0004	-0.0019	-0.0015	-0.0006	-0.0015
	(0.280)	(1.254)	(1.331)	(0.401)	(0.996)
LLY	0.0224***				
	(4.572)				
BANK		0.0209***			
		(2.802)			
PRIVATE			0.0235***		
			(3.146)		
PRIVY				0.0249***	
				(3.865)	
RESERVE					-0.0135
					(1.412)
$\bar{R}^2$	0.645	0.610	0.625	0.640	0.583
nobs	73	73	73	73	73

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 3.3
Contemporary Investment-Output Ratio Regressions :
Full Sample Averages for the Period 1960-89

Dependent Variable : INV

Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0039	-0.0132*	-0.0141**	-0.0089	-0.0032
	(0.718)	(1.894)	(1.978)	(1.282)	(0.479)
$\ln sch_{1960}$	0.0098**	0.0179***	0.0209***	0.0153***	0.0168***
	(2.249)	(3.792)	(4.181)	(3.799)	(3.304)
trd	0.0624**	0.0390	0.0526**	0.0683***	0.0651**
	(2.459)	(1.435)	(2.009)	(2.615)	(2.472)
gov	0.1115	0.1327	0.1829	0.1430	0.1381
	(1.093)	(1.148)	(1.585)	(1.293)	(1.118)
PI	0.0214*	0.0173	0.0173	0.0195	0.0205
	(1.713)	(1.477)	(1.402)	(1.504)	(1.626)
LLY	0.0999***				
	(4.144)				
BANK		0.1361***			
		(4.223)			
PRIVATE			0.1204***		
			(3.577)		
PRIVY				0.0990***	
				(3.106)	
RESERVE					-0.0968*
					(1.847)
$\bar{R}^2$	0.443	0.449	0.436	0.416	0.374
nobs	73	73	73	73	73

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 3.4
Contemporary Efficiency Regressions :
Full Sample Averages for the Period 1960-89

Dependent Variable : EFF

Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0070***	-0.0092***	-0.0094	-0.0085***	-0.0072***
	(3.669)	(4.346)	(4.301)	(4.470)	(3.914)
$\ln sch_{1960}$	0.0076***	0.0092***	0.0099***	0.0086***	0.0089***
	(4.218)	(5.442)	(5.726)	(5.237)	(5.422)
trd	0.0020	-0.0032	-0.0002	0.0034	0.0026
	(0.484)	(0.652)	(0.050)	(0.802)	(0.579)
gov	0.0128	0.0163	0.0275	0.0189	0.0163
	(0.495)	(0.732)	(1.109)	(0.683)	(0.677)
PI	-0.0028	-0.0034	-0.0034*	-0.0026	-0.0018
	(1.245)	(1.482)	(1.796)	(1.184)	(0.739)
LLY	0.0192***				
	(3.307)				
BANK		0.0302***			
		(3.163)			
PRIVATE			0.0271***		
			(2.749)		
PRIVY				0.0249***	
				(3.028)	
RESERVE					-0.0295**
					(2.237)
$\bar{R}^2$	0.384	0.408	0.400	0.399	0.372
nobs	73	73	73	73	73

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 4.1
Growth Regression with Time Series-Cross Section Data :
Decade Averages for the Period 60-69, 70-79 and 80-89

Dependent Variable : GYP

Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0030	-0.0041*	-0.0031	-0.0037*	-0.0029
	(1.488)	(1.740)	(1.413)	(1.820)	(1.4612)
$\ln sch_{1960}$	0.0098***	0.0129***	0.0125***	0.0109***	0.0124***
	(3.858)	(4.685)	(4.649)	(4.309)	(4.795)
trdi	-0.0110**	-0.0150***	-0.0131***	-0.0090**	-0.0110**
	(2.361)	(3.058)	(2.743)	(1.983)	(2.332)
govi	-0.0463	-0.0420	-0.0349	-0.0445	-0.0446
	(1.501)	(1.418)	(1.137)	(1.448)	(1.424)
PII	-0.0077	-0.0176	-0.0220	-0.0106	-0.0121
	(0.515)	(1.140)	(1.575)	(0.725)	(0.862)
dec2	-0.0072**	-0.0081**	-0.0080**	-0.0079**	-0.0089**
	(1.960)	(2.146)	(2.099)	(2.147)	(2.342)
dec3	-0.0251***	-0.0224***	-0.0228***	-0.0263***	-0.0247***
	(6.382)	(5.906)	(5.813)	(6.309)	(6.660)
LLYI	0.0283***				
	(3.640)				
BANKI		0.0222*			
		(1.906)			
PRIVATEI			0.0133		
			(1.402)		
PRIVYI				0.0327***	
				(3.341)	
RESERVEI					-0.0341***
					(2.870)
	$\bar{R}^2 = 0.368$	$\bar{R}^2 = 0.347$	$\bar{R}^2 = 0.339$	$\bar{R}^2 = 0.367$	$\bar{R}^2 = 0.365$
	nobs = 160	nobs = 160	nobs = 160	nobs = 160	nobs = 160

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 4.2
Growth Regression with Time Series-Cross Section Data :
Decade Averages for the Period 60-69, 70-79 and 80-89

Dependent Variable : GK

Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0000	-0.0016	-0.0003	-0.0007	-0.0006
	(0.004)	(0.763)	(0.143)	(0.361)	(0.361)
$\ln sch_{1960}$	0.0060**	0.0086***	0.0081***	0.0067**	0.0081***
	(2.075)	(3.191)	(2.847)	(2.373)	(3.161)
$trdi$	-0.0046	-0.0084*	-0.0063	-0.0032	-0.0043
	(1.1930)	(1.957)	(1.484)	(0.836)	(1.164)
$govi$	-0.0413	-0.0370	-0.0321	-0.0393	-0.0391*
	(1.580)	(1.469)	(1.221)	(1.535)	(1.856)
PII	-0.0073	-0.0124	-0.0171**	-0.0089	-0.0048
	(0.785)	(1.469)	(2.097)	(-0.994)	(0.595)
dec2	0.0035	0.0028	0.0029	0.0029	0.0018
	(0.981)	(0.782)	(0.8113)	(0.826)	(0.518)
dec3	-0.0145***	-0.0124***	-0.0129***	-0.0154***	-0.0151***
	(4.526)	(4.045)	(4.058)	(4.647)	(5.219)
LLYI	0.0200***				
	(2.906)				
BANKI		0.0226**			
		(2.163)			
PRIVATEI			0.0113		
			(1.497)		
PRIVYI				0.0259***	
				(3.014)	
RESERVEI					-0.0395***
					(4.967)
	$\bar{R}^2 = 0.326$	$\bar{R}^2 = 0.324$	$\bar{R}^2 = 0.307$	$\bar{R}^2 = 0.332$	$\bar{R}^2 = 0.368$
	nobs = 154	nobs = 154	nobs = 154	nobs = 154	nobs = 154

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 4.3
Growth Regression with Time Series-Cross Section data :
Decade Averages for Period 60-69, 70-79 and 80-89

Dependent Variable : INV

Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0025	-0.0075	-0.0030	-0.0030	0.0004
	(0.587)	(1.419)	(0.583)	(0.649)	(0.0879)
$\ln sch_{1960}$	0.0181***	0.0296***	-0.0277***	-0.0227***	0.0259***
	(3.307)	(5.214)	(4.807)	(4.219)	(4.438)
$trdi$	0.0401***	0.0243	0.0323**	0.0447***	0.0394***
	(2.912)	(1.640)	(2.208)	(3.129)	(2.694)
$govi$	-0.149*	-0.1319	-0.1080	-0.1449*	-0.1471
	(1.710)	(1.460)	(1.337)	(1.663)	(1.624)
PII	-0.0016	-0.0329	-0.0509	-0.0238	-0.0392
	(0.042)	(0.868)	(1.337)	(0.624)	(1.026)
dec2	0.0232**	0.0199**	0.0201*	0.0206**	0.0193*
	(2.211)	(1.970)	(1.941)	(2.071)	(1.840)
dec3	-0.0004	0.0095	0.0077	-0.0013	0.0044
	(0.034)	(0.868)	(0.680)	(0.115)	(0.390)
LLYI	0.0980***				
	(5.446)				
BANKI		0.0872***			
		(3.330)			
PRIVATEI			0.0481**		
			(2.082)		
PRIVYI				0.0892***	
				(3.414)	
RESERVEI					-0.0528**
					(2.090)
	$\bar{R}^2 = 0.340$	$\bar{R}^2 = 0.306$	$\bar{R}^2 = 0.279$	$\bar{R}^2 = 0.302$	$\bar{R}^2 = 0.273$
	nobs = 160	nobs = 160	nobs = 160	nobs = 160	nobs = 160

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 4.4
Growth Regression with Time Series-Cross Section Data :
Decade Averages for the Period 60-69, 70-79 and 80-89

Dependent Variable : EFF

Variable	(1)	(2)	(3)	(4)	(5)
$\ln y_{1960}$	-0.0029	-0.0033	-0.0028	-0.0033*	-0.0026
	(1.444)	(1.367)	(1.277)	(1.653)	(1.280)
$\ln sch_{1960}$	0.0079***	0.0103***	0.0101***	0.0088***	0.0099***
	(3.050)	(3.654)	(3.688)	(3.403)	(3.730)
trdi	-0.0108**	-0.0132***	-0.0123***	-0.0094**	-0.0107**
	(2.361)	(2.745)	(2.611)	(2.094)	(2.286)
govi	-0.0321	-0.0298	-0.0243	-0.0302	-0.0313
	(1.071)	(1.024)	(0.816)	(1.009)	(1.013)
PII	-0.0050	-0.0146	-0.0173	-0.0089	-0.0107
	(0.356)	(0.998)	(1.280)	(0.638)	(0.781)
dec2	-0.0082**	-0.0089**	-0.0088**	-0.0089**	-0.0094**
	(2.311)	(2.434)	(2.409)	(2.453)	(2.542)
dec3	-0.0204***	-0.0183***	-0.0185***	-0.0210***	-0.0198***
	(5.792)	(5.304)	(5.260)	(5.680)	(5.790)
LLYI	0.0238***				
	(3.378)				
BANKI		0.0141			
		(1.24)			
PRIVATEI			0.0098		
			(1.063)		
PRIVYI				0.0256***	
				(2.766)	
RESERVEI					-0.0341***
					(2.870)
	$\bar{R}^2 = 0.277$	$\bar{R}^2 = 0.253$	$\bar{R}^2 = 0.250$	$\bar{R}^2 = 0.272$	$\bar{R}^2 = 0.263$
	nobs = 154	nobs = 154	nobs = 154	nobs = 154	nobs = 154

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 5
Financial Indicators and Monetary Policy Variable :
Head to head Comparisons in Pooled Cross-Section Time Series growth regression
(Decade Averages for the Period 60-69, 70-79 and 80-89)

	dependent variable			
	GYP	GK	INV	EFF
PII	0.0008	0.0029	0.0053	-0.0000
	(0.057)	(0.322)	(0.139)	(0.000)
LLYI	0.0260***	0.0153**	0.0947***	0.0214***
	(3.527)	(2.369)	(5.287)	(3.232)
RESERVEI	-0.0290**	-0.0364***	-0.0339	-0.0181
	(2.425)	(4.410)	(1.345)	(1.605)
PII	-0.0114	-0.0041	-0.0333	-0.0102
	(0.785)	(0.515)	(0.862)	(0.723)
BANKI	0.0072	0.0064	0.0869***	0.0053
	(0.545)	(0.551)	(2.938)	(0.410)
RESERVEI	-0.0306**	-0.362***	-0.0089	-0.0197
	(2.199)	(3.735)	(0.324)	(1.493)
PII	-0.0123	-0.0047	-0.0434	-0.0108
	(0.873)	(0.593)	(1.117)	(0.799)
PRIVATEI	0.0036	-0.004	0.0389	0.0037
	(0.351)	(0.051)	(1.596)	(0.366)
RESERVEI	-0.0325**	-0.0397***	-0.0339	-0.0206
	(2.464)	(4.771)	(1.243)	(1.624)
PII	-0.0042	0.0005	-0.0176	-0.0043
	(0.290)	(0.062)	(0.456)	(0.311)
PRIVYI	0.0274***	0.0182**	0.0834***	0.0219**
	(2.853)	(2.132)	(3.350)	(2.453)
RESERVEI	-0.0275**	-0.0350***	-0.0323	-0.0170
	(2.252)	(4.099)	(1.247)	(1.470)

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses. * significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

Table 6.1
Contemporary LLY Regression with Inflation : Full Sample Averages for the Period 1960-89

Dependent Variable : LLY

	specifications				
				Only countries	with PI<.4 only
	No dummy	d=PI >.15	d=PI >.4	No dummy	d=PI >0.15
	(1)	(2)	(3)	(4)	(5)
CONSTANT	0.5465	0.8552**	0.6393*	0.5411	0.7831*
	(1.560)	(1.964)	(1.902)	(1.486)	(1.716)
D*CONSTANT		-0.3537***	-0.3343***		-0.0830
		(3.057)	(3.863)		(0.504)
$\ln y_{1960}$	-0.0011	-0.0073	0.0062	0.0231	0.0076
	(0.023)	(0.155)	(0.144)	(0.451)	(0.139)
$\ln sch_{1960}$	0.0833***	0.0959***	0.0859***	0.0784**	0.0919***
	(2.666)	(2.864)	(2.928)	(2.473)	(2.586)
REVC	-0.1253	-0.1394**	-0.1465**	-0.1896**	-0.2094**
	(1.624)	(1.863)	(1.984)	(2.299)	(2.322)
BMP	-0.0447**	0.0240	0.0352	0.0923	0.1004
	(2.517)	(1.040)	(1.469)	(1.103)	(1.176)
GOV	0.5328	0.2602	0.3262	0.1513	0.0905
	(0.823)	(0.445)	(0.540)	(0.188)	(0.116)
PI	-0.0599**	-2.556**	-1.2805***	-1.3969***	-2.7267**
	(2.140)	(1.959)	(3.229)	(3.194)	(2.003)
dum*PI		2.5462*	1.2965***		1.5229
		(1.941)	(3.212)		(1.144)
$\bar{R}^2$	0.329	0.406	0.393	0.380	0.383
p-value		0.626	0.577		0.057
nobs	79	79	79	70	70

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.

* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

p value is the test result of the null hypothesis that the coefficient on PI plus the coefficient on dum*PI equals zero.

The estimation of equations (1), (2) and (3) includes high inflation (over 40%) countries such as Argentina, Bolivia, Brazil, Chile, Israel, Nicaragua, Peru, Uruguay and Zaire.

Table 6.2
Contemporary BANK Regression with Inflation : Full Sample Averages for the Period 1960-89

Dependent Variable : BANK

	specifications				
				Only countries	with PI<.4
	No dummy	d=PI>.15	d=PI>.4	No dummy	dum=PI>.15
	(1)	(2)	(3)	(4)	(5)
CONSTANT	0.2497	0.3142	0.3412**	0.4118**	0.4055*
	(1.472)	(1.507)	(2.002)	(2.418)	(1.926)
D*CONSTANT		-0.2268***	-0.3020***		-0.0282
		(3.734)	(4.702)		(0.199)
$\ln y_{1960}$	0.0626***	0.0656***	0.0622***	0.0539***	0.0544**
	(3.017)	(3.187)	(3.168)	(2.715)	(2.508)
$\ln sch_{1960}$	-0.0009	-0.0020	0.0023	0.0047	0.0041
	(0.057)	(0.122)	(0.143)	(0.306)	(0.248)
REVC	-0.1412*	-0.1963**	-0.1962**	-0.1685**	-0.1701**
	(1.710)	(2.520)	(2.536)	(2.141)	(2.073)
BMP	-0.0501*	-0.0007	0.0112	-0.0720	-0.0712
	(1.733)	(0.036)	(0.431)	(1.095)	(1.095)
GOV	0.4987	0.3659	0.4103	0.3406	0.3424
	(1.602)	(1.267)	(1.304)	(0.978)	(0.981)
PI	-0.0339	-0.7016	-0.7408***	-0.6085***	-0.5872
	(1.222)	(1.076)	(4.636)	(3.464)	(0.953)
dum*PI		0.7535	0.8273***		0.0866
		(1.148)	(5.033)		(0.111)
$\bar{R}^2$	0.419	0.495	0.505	0.479	0.460
p-value		0.036	0.010		0.318
nobs	71	71	71	64	64

Table 6.3
Contemporary PRIVATE Regression with Inflation : Full-Sample Averages for the Period 1960-89

Dependent Variable : PRIVATE

	specifications				
				Only countries	with PI<.4
	No dummy	d=PI >.15	d=PI>.4	No dummy	d=PI >.15
	(1)	(2)	(3)	(4)	(5)
CONSTANT	-0.0218	0.1169	0.0795	0.2732	0.2826
	(0.101)	(0.521)	(0.390)	(1.353)	(1.243)
D*CONSTANT		-0.2215***	-0.0994		0.0769
		(2.918)	(0.971)		(0.385)
$\ln y_{1960}$	0.0845***	0.0846***	0.0881***	0.0567**	0.0559**
	(3.031)	(3.241)	(3.439)	(2.217)	(2.123)
$\ln sch_{1960}$	-0.0287	-0.0265	-0.0280	-0.0163	-0.0152
	(1.317)	(1.315)	(1.389)	(0.847)	(0.754)
REVC	-0.1356	-0.1796*	-0.1578	-0.0762	-0.0716
	(1.270)	(1.730)	(1.545)	(0.883)	(0.789)
BMP	-0.0690	-0.0249	-0.0451	-0.2566***	-0.2589***
	(1.194)	(0.491)	(0.952)	(3.665)	(3.590)
GOV	0.1695	-0.1205	-0.1443	0.0759	0.0720
	(0.375)	(0.282)	(0.343)	(0.206)	(0.195)
PI	-0.0334	-1.0871	-0.9120***	-0.5079*	-0.5266
	(0.915)	(1.485)	(3.393)	(1.718)	(0.877)
dum*PI		-1.1219	0.8945***		-0.2705
		(1.515)	(3.212)		(0.256)
$\bar{R}^2$	0.338	0.385	0.402	0.488	0.470
p-value		0.355	0.720		0.356
nobs	70	70	70	64	64

Table 6.4
Contemporary PRIVY Regression with Inflation : Full Sample Averages for the Period 1960-89

Dependent Variable : PRIVY

	specifications				
				Only countries	with PI<.4
	No dummy	dum=PI >.15	dum=PI>.4	No dummy	d=PI >.15
	(1)	(2)	(3)	(4)	(5)
CONSTANT	-0.1691	0.0308	-0.0962	-0.0976	0.0319
	(0.622)	(0.117)	(0.398)	(0.360)	(0.112)
D*CONSTANT		-0.2519***	-0.1905***		-0.0721
		(3.422)	(3.302)		(0.565)
$\ln y_{1960}$	0.0712*	0.0684*	0.0778**	0.0795*	0.0708*
	(1.847)	(1.893)	(2.148)	(1.853)	(1.668)
$\ln sch_{1960}$	0.0173	0.0237	0.0168	0.0147	0.0220
	(0.695)	(1.024)	(0.742)	(0.585)	(0.869)
REVC	-0.0639	-0.0814	-0.0799	-0.0889	-0.0974
	(1.186)	(1.553)	(1.566)	(1.488)	(1.530)
BMP	-0.0349	0.0140	0.0099	-0.0165	-0.0089
	(1.501)	(0.955)	(0.643)	(0.259)	(0.136)
GOV	0.0790	-0.1291	-0.1571	-0.2415	-0.2498
	(0.178)	(0.309)	(0.361)	(0.441)	(0.469)
PI	-0.0471**	-1.7146**	-0.9785***	-0.9419***	-1.6685**
	(2.313)	(2.386)	(3.577)	(2.700)	(2.123)
dum*PI		1.7062**	0.9675***		0.9115
		(2.361)	(3.515)		(1.090)
$\bar{R}^2$	0.426	0.499	0.491	0.487	0.483
p-value		0.519	0.521		0.174
nobs	81	81	81	73	73

Table 6.5
Contemporary RESERVE Regression with Inflation : Full Sample Averages for the Period 1960-89

Dependent Variable : RESERVE

	specifications				
				Only countries	with PI<.4
	No dummy	d=PI >.15	dum=PI>.4	No dummy	d=PI >.15
	(1)	(2)	(3)	(4)	(5)
CONSTANT	0.2706**	0.2228*	0.2255*	0.1629	0.1464
	(2.087)	(1.695)	(1.940)	(1.479)	(1.118)
D*CONSTANT		0.2539***	0.2572***		0.2580**
		(6.874)	(5.449)		(2.528)
$\ln y_{1960}$	-0.0106	-0.0231	-0.0230*	-0.0123	-0.0116
	(0.672)	(1.594)	(1.786)	(0.944)	(0.767)
$\ln sch_{1960}$	-0.0020	0.0037	0.0029	-0.0030	-0.0032
	(0.137)	(0.295)	(0.241)	(0.288)	(0.263)
REVC	0.0426	0.0598	0.0738	0.0068	-0.0041
	(0.761)	(1.233)	(1.474)	(0.140)	(0.089)
BMP	0.0725**	0.0154	0.0136	0.1200**	0.1158***
	(2.028)	(0.779)	(0.584)	(2.257)	(2.832)
GOV	-0.4813	-0.1244	-0.1063	-0.1863	-0.2019
	(1.488)	(0.452)	(0.370)	(0.639)	(0.703)
PI	0.0548***	1.1113**	0.9940***	0.7974***	0.9968**
	(3.188)	(2.342)	(6.476)	(5.7024)	(2.304)
dum*PI		-1.1068**	-0.9961***		-1.2135*
		(2.334)	(6.539)		(1.931)
$\bar{R}^2$	0.321	0.528	0.506	0.4159	0.428
p-value		0.718	0.902		0.612
nobs	78	78	78	70	70

Table 7
Contemporary Financial Variable Regressions with Monetary Policy Variable :
Full-Sample Averages for the Period 1960-89

	dependent variable			
	LLY	BANK	PRIVATE	PRIVY
CONSTANT	0.5990*	0.4232***	0.2667	-0.0518
	(1.810)	(2.707)	(1.435)	(0.185)
D.CONSTANT	-0.4479***	-0.1923**	0.0466	-0.1628*
	(2.744)	(2.066)	(0.520)	(1.649)
$\ln y_{1960}$	0.0121	0.0587***	0.0681***	0.0758*
	(0.271)	(3.277)	(2.889)	(1.808)
$\ln sch_{1960}$	0.0874***	-0.0020	-0.0235	0.0162
	(2.872)	(0.123)	(1.272)	(0.630)
REVC	-0.1675*	-0.1222	-0.1006	-0.0665
	(1.728)	(1.643)	(1.224)	(1.348)
BMP	0.0316	0.0206	-0.0245	0.0197
	(1.199)	(1.069)	(0.748)	(1.083)
GOV	0.3720	0.2092	-0.2338	-0.2804
	(0.489)	(0.608)	(0.532)	(0.531)
PI	-1.8139**	-0.3189	-0.2817	-0.8501**
	(2.457)	(0.973)	(0.7928)	(2.243)
D.PI	1.8322**	0.4094	0.2727	0.8447**
	(2.445)	(1.225)	(0.7539)	(2.200)
RESERVE	0.3318	-0.6311***	-0.6792***	-0.2237
	(0.854)	(2.636)	(3.872)	(1.631)
$\bar{R}^2$	0.397	0.615	0.476	0.485
nobs	74	65	65	76

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.
* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.
dummy = PI>0.4.

Table 8.1
LLY Regression with Time Series-Cross Section Data :
Decade Averages for the Period 60-69, 70-79 and 80-89

Dependent Variable : LLY

	specifications					
					Only countries	with PI<.4
	No dummy	No dummy	d=PI >.4.	d=PI >.4	No dummy	No dummy
	(1)	(2)	(3)	(4)	(5)	(6)
CONSTANT	0.0803	0.2192	0.1255	0.2201	0.1065	0.1895
	(0.605)	(1.430)	(0.965)	(1.434)	(0.767)	(1.161)
D*CNSTNT			-0.3988***	-0.0750		
			(3.838)	(1.028)		
$\ln yI$	0.0451**	0.0370*	0.0446**	0.0372*	0.0482***	0.0406*
	(2.475)	(1.861)	(2.450)	(1.866)	(2.473)	(1.916)
$\ln schI$	0.0654***	0.0826***	0.0692***	0.0828***	0.0664***	0.0800***
	(4.247)	(4.719)	(4.484)	(4.693)	(4.113)	(4.358)
REVC	-0.0858**	-0.0483	-0.0849**	-0.0462	-0.0895**	-0.0468
	(2.526)	(1.455)	(2.493)	(1.402)	(2.522)	(1.367)
TRDI	0.0553	0.0808	0.0480	0.0813	0.0479	0.0828
	(1.113)	(1.366)	(0.967)	(1.371)	(0.939)	(1.391)
GOVI	0.3525	0.1705	0.2345	0.1795	0.1565	0.1814
	(1.196)	(0.488)	(0.820)	(0.514)	(0.521)	(0.518)
DEC2	0.0023	0.0046	0.0097	0.0068	0.0110	0.0073
	(0.073)	(0.122)	(0.295)	(0.176)	(0.331)	(0.189)
DEC3	0.0664	0.0855	0.1014**	0.0964*	0.1071**	0.0968*
	(1.440)	(1.638)	(2.044)	(1.752)	(2.119)	(1.749)
PII	-0.3187***	-0.5491***	-0.6603***	-0.6799***	-0.6733***	-0.6820***
	(3.112)	(4.748)	(3.405)	(3.273)	(3.437)	(3.258)
D.PII			0.8136***	0.2810		
			(3.459)	(1.412)		
RESERVEI		-0.2099**		-0.2040**		-0.1980**
		(2.188)		(2.120)		(2.021)
$\bar{R}^2$	0.360	0.370	0.371	0.365	0.367	0.360
nobs	256	216	256	216	246	209

Notes: White's Heteroskedasticity-corrected t-statistics in Parentheses.

* significant at the 10 % level, ** significant at the 5 % level, and *** significant at the 1 % level.

The estimation of equations (1) and (3) includes high inflation (over 40%) countries such as Chile (1970, 1980), Ghana (1980), Iceland(1980), Israel (1980), Peru (1980), Somalia (1980), Turkey (1980), Uruguay (1980) and Zaire (1980).

The estimation of equations (2) and (4) includes high inflation (over 40%) countries such as Chile (1970), Brazil (1980), Ghana (1980), Iceland(1980), Peru (1980), Uruguay (1980) and Zaire (1980).

Table 8.2
BANK Regression with Time Series-Cross Section Data :
Decade Averages for the Period 60-69, 70-79 and 80-89

Dependent Variable : BANK

	specifications					
					Only countries	with PI<.4
	No dummy	No dummy	d=PI >.4.	d=PI >.4	No dummy	No dummy
	(1)	(2)	(3)	(4)	(5)	(6)
CONSTANT	-0.0580	0.1044	0.0126	0.1103	0.0159	0.1081
	(0.469)	(0.804)	(0.102)	(0.837)	(0.123)	(0.789)
D*CNSTNT			-0.4877***	-0.2223		
			(3.477)	(0.784)		
$\ln yI$	0.0945***	0.0852***	0.0919***	0.0849***	0.0921***	0.0850***
	(7.333)	(6.622)	(7.139)	(6.452)	(6.790)	(6.177)
$\ln schI$	-0.0096	-0.0038	-0.0039	-0.0027	-0.0042	-0.0033
	(0.589)	(0.218)	(0.238)	(0.153)	(0.253)	(0.184)
REVC	-0.0386	-0.0238	-0.0435	-0.0218	-0.0390	-0.0144
	(0.711)	(0.541)	(0.806)	(0.493)	(0.690)	(0.312)
TRDI	0.0372	0.0632	0.0372	0.0660	0.0335	0.0620
	(0.891)	(1.534)	(0.856)	(1.567)	(0.769)	(1.462)
GOVI	0.1827	-0.0368	-0.0089	-0.0363	-0.0488	-0.0191
	(0.677)	(0.152)	(0.034)	(0.149)	(0.182)	(0.078)
DEC2	0.0648**	0.0559*	0.0735**	0.0585**	0.0766***	0.0616**
	(2.185)	(1.885)	(2.506)	(1.976)	(2.611)	(2.092)
DEC3	0.0472	0.0482	0.0853**	0.0574	0.0821**	0.0497
	(1.317)	(1.405)	(2.410)	(1.644)	(2.320)	(1.443)
PII	-0.3599***	-0.4822***	-0.7291***	-0.6083***	-0.7079***	-0.5651***
	(3.079)	(4.447)	(4.038)	(3.358)	(3.903)	(3.146)
D.PII			0.9684***	0.5041		
			(3.696)	(0.994)		
RESERVEI		-0.3568***		-0.3462***		-0.3525***
		(4.982)		(4.778)		(4.976)
$\bar{R}^2$	0.391	0.492	0.423	0.491	0.393	0.463
nobs	217	190	217	190	208	183

Table 8.3
PRIVATE Regression with Time Series-Cross Section Data :
Decade Averages for Period 60-69, 70-79 and 80-89

Dependent Variable : PRIVATE

specifications

					Only countries	with PI<.4
	No dummy	No dummy	d=PI >.4.	d=PI >.4	No dummy	No dummy
	(1)	(2)	(3)	(4)	(5)	(6)
CONSTANT	-0.1091	0.0792	-0.0982	0.0677	-0.0667	0.1032
	(0.861)	(0.590)	(0.754)	(0.502)	(0.487)	(0.737)
D*CNSTNT			-0.0819	0.2578*		
			(0.689)	(1.795)		
$\ln yI$	0.0951***	0.0812***	0.0945***	0.0821***	-0.0914***	0.0782***
	(6.638)	(5.660)	(6.533)	(5.681)	(5.924)	(5.164)
$\ln schI$	-0.0104	-0.0090	-0.0094	-0.0105	-0.0065	-0.0068
	(0.605)	(0.488)	(0.544)	(0.562)	(0.365)	(0.360)
REVC	0.0113	0.0010	0.0104	0.0000	0.0162	0.0076
	(0.221)	(0.024)	(0.204)	(0.000)	(0.302)	(0.177)
TRDI	0.0289	0.0354	0.0285	0.0329	0.0244	0.0280
	(0.663)	(0.745)	(0.645)	(0.684)	(0.547)	(0.578)
GOVI	-0.2580	-0.3731	-0.2831	-0.3701	-0.3085	-0.3633
	(1.051)	(1.463)	(1.091)	(1.441)	(1.133)	(1.408)
DEC2	0.0452	0.0279	0.0457	0.0262	0.0453	0.0252
	(1.544)	(0.909)	(1.553)	(0.863)	(1.538)	(0.832)
DEC3	0.0010	0.0201	0.0046	-0.0301	0.0053	-0.0307
	(0.030)	(0.566)	(0.118)	(0.794)	(0.135)	(0.810)
PII	-0.2789***	-0.1844*	-0.3024	0.0619	-0.3047	-0.0569
	(4.679)	(1.729)	(1.440)	(0.298)	(1.452)	(0.275)
D.PII			0.1187	-0.5405**		
			(0.465)	(2.021)		
RESERVEI		-0.4110***		-0.4206***		-0.4280***
		(4.357)		(4.508)		(4.467)
$\bar{R}^2$	0.324	0.380	0.318	0.377	0.291	0.346
nobs	212	185	212	185	204	179

Table 8.4
PRIVY Regression with Time Series-Cross Section Data :
Decade Averages for the Period 60-69, 70-79 and 80-89

Dependent Variable : PRIVY

	specifications					
					Only countries	with PI<.4
	No dummy	No dummy	d=PI >.4.	d=PI >.4	No dummy	No dummy
	(1)	(2)	(3)	(4)	(5)	(6)
CONSTANT	-0.2306**	-0.0818	-0.1987**	-0.0915	-0.2027**	-0.0983
	(2.366)	(0.739)	(2.064)	(0.829)	(1.979)	(0.831)
D*CNSTNT			-0.2393**	01771***		
			(2.372)	(2.854)		
$\ln yI$	0.0702***	0.0614***	0.0697***	0.0628***	0.0714***	0.0635***
	(5.399)	(4.297)	(5.359)	(4.389)	(5.139)	(4.142)
$\ln schI$	0.0193*	0.0287**	0.0218**	0.0273**	0.0207*	0.0270**
	(1.815)	(2.265)	(2.015)	(2.141)	(1.831)	(2.010)
REVC	-0.0487**	-0.0259	-0.0481**	-0.0254	-0.0487**	-0.0236
	(2.156)	(1.092)	(2.148)	(1.077)	(2.084)	(0.963)
TRDI	-0.0147	-0.0191	-0.0197	-0.0185	-0.0208	-0.0184
	(0.636)	(0.775)	(0.862)	(0.758)	(0.897)	(0.753)
GOVI	0.0978	-0.0554	0.0254	-0.0544	-0.0396	-0.0517
	(0.518)	(0.272)	(0.143)	(0.268)	(0.218)	(0.254)
DEC2	0.0116	0.0073	0.0154	0.0088	0.0166	0.0088
	(0.556)	(0.315)	(0.738)	(0.380)	(0.793)	(0.378)
DEC3	0.0504*	0.0665**	0.078***	0.0719**	0.0814***	0.0719**
	(1.866)	(2.333)	(2.679)	(2.294)	(2.782)	(2.293)
PII	-0.2035***	-0.3093***	-0.4787***	-0.3806**	-0.4855***	-0.3828**
	(2.725)	(4.049)	(3.285)	(2.556)	(3.320)	(2.569)
D.PII			0.5522***	-0.1803		
			(2.825)	(1.095)		
RESERVEI		-0.3007***		-0.3017***		-0.2976***
		(5.092)		(5.076)		(4.933)
$\bar{R}^2$	0.446	0.471	0.455	0.469	0.453	0.461
nobs	256	218	256	218	247	212